



State of Connecticut

## *Department of Information Technology*

**Report Pursuant to CGS 4d-14  
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## **Introduction**

CGS Sec. 4d-14 (b) requires the Department of Information Technology (DOIT) to submit a report to the Secretary of the Office of Policy and Management, the Governor and the General Assembly specifying potential opportunities for increasing the efficiency or reducing the costs of the state's information and telecommunication systems and including a plan to realize such opportunities.

New telecommunication contracts awarded in 2004 offer agencies the opportunity to achieve significant savings in many service areas. This report, submitted in accordance CGS Sec. 4d-14 (b), focuses specifically on the financial benefits of the new contracts.

This report also outlines the benefits of a new telecommunications management system to improve DOIT's ability to administer telecommunications billing services and offer agencies new tools to manage their telecommunication assets. It outlines steps DOIT is prepared to take to investigate this option.

## **Overview of State Telecommunication Services and Contracts**

Under CGS 4d-5, DOIT is responsible for the "purchasing, leasing and contracting for all telecommunication facilities, equipment and services for the state-wide telecommunication infrastructure for the support of state agencies;"

CGS 4d-5 provides DOIT with the responsibility of negotiating and executing contracts for telecommunication services, assisting state agencies in designing and implementing new systems, and processing bills for telecommunication services used by state agencies.

58 agencies within the executive branch are required by statute to use DOIT telecommunication contracts and services. The constitutional officers, legislative and judicial branches, public institutions of higher education, and quasi-public agencies have "purchasing flexibility." They are not required by statute to purchase telecommunication services off of existing DOIT contracts but may do so if they wish.

Agencies throughout all branches are billed by DOIT for telecommunication services.

In 2004, DOIT completed the execution of new telecommunication contracts which cover more than twelve areas of telecommunications service, from long distance to internet access. More favorable pricing and new service offerings are

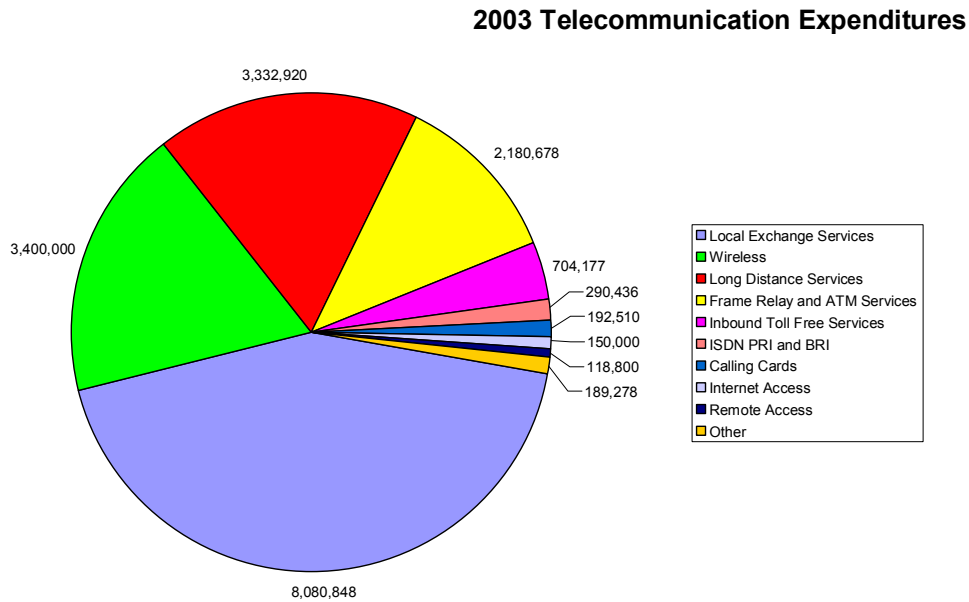
designed to both reduce agency telecommunication expenditures and improve service levels.

New contracts reached in 2004 provide agencies reduced rates across the board. These new rates are offset by a ten percent administrative fee charged by DOIT to recover costs in statewide management of telecommunication services.

### New Telecommunication Contracts: Cost Savings, Reductions

This section explains rate reductions in the new telecommunication contracts governing each service and savings that can be achieved.

Telecommunication spending in 2003 is reflected in the chart below.



Following are simple explanations of many of these services and the rate reductions contained in the new telecommunication contract rates

#### Local Exchange Services

Local Exchange Services provide agencies with dial tone and in and out bound calling capability. The state spends more than \$8 million per year on such services – the highest category of telecommunication expenditure.

More than 90,000 services are purchased by state agencies under this category, including 70,000 direct inward dial numbers. The rest of the services include: analog and digital trunking into telecommunication switches (to control all incoming and outgoing calls), residential services (primarily used for state group homes), analog local lines (primarily used for modem pooling and disaster recovery), and Centrex services.

The new telecommunication contract offers savings depending on the local exchange services being utilized.

For example, new rates governing digital trunk lines lower costs per line by 7 to 41 percent depending on the vendor providing the service.

Centrex line costs per month are reduced by three percent per line and Centrex trunk line costs are reduced by more than two percent.

### Long Distance Services

Long distance services include both *intrastate calls*, (i.e., a long distance call placed from Hartford to Bridgeport), and *interstate calls*, (i.e., a long distance call placed from Hartford to Buffalo).

Intrastate and interstate calls account for 34.3 million minutes of calls placed from state facilities within the executive branch alone, excluding higher education. The state spends more than \$3.3 million annually on such services, the third highest category of telecommunication expenditure.

Under the new contracts, using agencies are encouraged to use the long distance service provided by their local exchange service provider. Regardless of which vendor an agency uses, per minute savings on long distance calling will be achieved under all of the new contracts.

The majority of long distance calls within the executive branch are intrastate and consumed an estimated 28 million minutes in 2003 alone. Under the new contract, per minute rate savings range from 22 to 61 percent, 15 to 26 percent, and 26 to 59 percent depending on which of the three vendors is providing the service.

Interstate calls consume a smaller portion of long distance calls – an estimated 6.3 million minutes in 2003. Per minute savings range from 48 to 64 percent, 22 to 61 percent, or 35 to 63 percent depending on which of the three vendors is providing the service.

## Wireless Services - Cellular Telephones

Throughout the executive branch, excluding institutions of public higher education, 6200 cellular phones are issued to state employees. The annual cost to the state is approximately \$3.4 million – the second highest category of telecommunication expenditure.

Each agency exercises its own discretion as to who is issued a cellular phone and which carrier, calling plan and equipment are purchased off of the DOIT telecommunication contracts.

The new contracts offer multiple pricing plans to accommodate differing business needs of users and offer more favorable rates than those paid in the past.

Verizon Wireless plans range from \$9.99 to \$259.19 per month and from “pay per minute” to 6000 free minutes. Cingular and Nextel offer the same variety of pricing options.

Overall, DOIT estimates savings of more than \$1,000,000 in annual telecommunication costs under the new wireless contracts.

DOIT conducted a post-contract award analysis to determine the most cost effective plan for agencies seeking basic wireless service with cost, rather than special business or capability needs, as the primary factor behind their service choice.

One plan - the Cingular Super-Pooled Plan - charges \$5.00 per month and \$.05 per minute. This represents a fifty percent reduction in the monthly service charge and a 72 to 83 percent reduction in the per minute charge compared to the previous “basic” plan offered under the previous contract. Based on DOIT’s recommendation, more than 1,000 cell phone numbers have been ported or added to this plan already.

DOIT will continue to consult with agencies to assist them in making the most cost effective choices. DOIT is especially concerned about the “cool tool” trend where agencies may select equipment and plans with capabilities that exceed business needs and monthly costs exceeding budget resources.

One agency, for example, determined a new wireless service they had chosen was not the most cost-effective selection in view of needed service levels. They are investigating transferring to the Cingular Super-Pooled Plan for monthly

savings of more than \$52,000. They are also considering the option of adjusting their existing wireless service to lower current costs by 37 percent.

### **In-Bound Toll Free Numbers - General Government**

There are approximately 353 toll free lines throughout state government, the majority – 277 – in the Executive Branch alone. These toll free lines enable calls to be placed at no charge to the caller, with the entire cost borne by the state agency. In 2003, more than 16 million minutes were consumed by users of the 277 toll free numbers within the Executive Branch, excluding higher education.

The new telecommunications contract reduces the rates charged for toll-free lines.

The state network model shows that intrastate calls make up the majority of calls to state toll free lines. Intrastate toll free lines will cost 20 to 30 percent less per minute per call under the contract with the one vendor. Per minute costs are reduced 31 to 51 percent with the other vendor.

Interstate toll free lines will cost 55 to 61 percent less per minute per call under the contract with one vendor and drop 60 percent with another.

Per minute rate reductions took effect on the date the contracts with the respective vendors were signed in the fall of 2003.

The savings noted above include only savings on per minute rates. They do not reflect additional savings that can be achieved through system redesign or a change in service providers.

It is important to note that additional costs are inherent in toll free services, including monthly service charges and installation costs.

Agencies may also wish to reassess the configuration of their toll free lines wherever practical. Doing so would reduce the costs of maintaining a toll free line, retain toll free service for callers outside of the local calling area, and not place any additional costs on callers from the local area.

For example, incoming calls can be restricted by area code and exchange to prevent local callers from unnecessarily using a toll-free number. Custom messages can be provided advising local callers of the local number to dial.

### **In-Bound Toll Free Numbers - High Volume Call Centers**

Additional savings can be attained through the reduction in rates for equipment and systems that enable toll free systems to work. The state's highest volume call centers, for example, can achieve savings not only through the reduced per minute rates but through system adjustments.

#### ***Department of Labor (DOL) Call Center***

The Department of Labor (DOL) Call Center is used to process unemployment compensation claims including initial claim filing, claim continuance, and status inquiries.

DOL's Call Center processes the highest volume of toll-free calls within the Executive Branch, taking in more than 2.8 million calls per year. Two hundred and sixty thousand calls are "initial claims" for unemployment and 2.6 million are "weekly continued claims" for unemployment. Annual minutes used by callers are estimated to be 20 million – more than 1.6 million minutes per month.

A new system design was put in place to improve upon the old system, take advantage of offerings in the new telecommunication contracts and lower costs. DOL will be transferring to the new system in the fall of 2004.

Under the rates of the new contract, savings of more than 277,000 per year or \$734,206 over three years are expected.

#### ***Other High Volume Call Centers***

The new contracts will also allow for savings to be achieved on the state's other high volume call centers.

While the call volume of these centers is not on the same scale as the DOL Call Center, it is high enough to justify serious investigation into whether the new telecommunication contracts can offer savings, not just in a lower per minute rate, but in a better system design using more favorably priced services and equipment as well.

1-800-842-8222 is a toll free number of the Department of Motor Vehicles (DMV) and takes in more than 810,000 calls annually and uses more than 350,000 minutes per month. It blocks incoming calls from a local service area to avoid unnecessary costs but remains one of the highest volume numbers.

DOIT estimates that, based on a six month summary of usage and charges, DMV is eligible for the SBC dedicated rate of .030 per minute versus the current rate of .042. At the current usage pattern this would create an annual cost savings to



DMV of approximately \$51,600.

1-800-CT-BOUND is the toll free service for the state's Tourism Division, now part of the Commission on Arts, Culture and Tourism. The service enables callers to receive information on travel to Connecticut. The line received more than 54,000 calls per year and uses more than 56,000 minutes annually.

1-877-CT-HUSKY is the toll free service for callers inquiring about the state's subsidized health insurance program for children. The line receives more than 28,789 calls per year and uses more than 196,272 minutes annually.

1-877-CTRIDES is toll free number for the Department of Transportation for callers to obtain information of public transportation services throughout Connecticut. The system routes each caller to the appropriate local transportation district. The line receives more than 5,580 calls per year and uses more than 18,100 minutes annually.

### **Telephone Calling Cards**

Agencies issue calling cards to personnel. The number of active calling cards is currently 8,141 and the state spends more than \$190,000 per year for calling card services. More than 500,000 calls per year are placed on the calling cards by state users using more than 1.8 million minutes.

Agencies will enjoy reduced rates for calling cards under the terms of the new telecommunication contracts.

Each calling card call has a per-call surcharge, as well as the standard per minute long distance rates/rates. Card surcharges range from .07 to \$2.45 per call.

Per minute savings for intrastate calls under the new contract range from 44 to 54 percent with one vendor, and from 43 to 50 percent with the other vendor.

For interstate calls, per minute savings range from 32 to 44 percent with one vendor and from 43 to 50 percent with the other vendor.

### **ATM and Frame Relay Services**

The state's enterprise network carries the load of the state's business traffic, from e-mail to high volume data transmission. It serves all branches and agencies of state government.

Asynchronous Transfer Mode (ATM) and Frame Relay services are the two primary means by which data is transported throughout the state's network. ATM and Frame Relay services are purchased from commercial carriers and more than \$2.1 million is spent for them annually. Annual savings are expected to total more than \$600,000 under the new contracts.

The state's primary vendor, under the new telecommunication contract, offers lower prices for ATM service than under the previous contract. ATM service savings under the new contract range from 30 to 46 percent under the terms with one vendor.

In addition, Frame Relay Service rates are lowered from 11 to 25 percent per month (depending on the speed of transmission) under the terms with one vendor and 71 to 74 percent with another vendor. There are more than 700 access links and more than 1000 permanent virtual circuits in the Frame Relay service structure of the network alone.

### **ISDN BRI and PRI Service**

Integrated Services Digital Network (ISDN) services are used by more than 111 users. ISDN provides voice, video and data transmission capability over a single phone line. More than \$290,000 was spent on these services in 2003.

Under the new contract, ISDN service rates were reduced by 20 percent - or ten dollars per month - for ISDN Basic Rate Interface (BRI) lines and by 57 percent, or more than \$700 per line per month, for ISDN Primary Rate Interface (PRI) Lines. BRI lines transmit data at a lower speed over a single phone line and PRI are higher transmission lines

### **Other Services**

New telecommunication contracts were also issued for Public Telephones, Fax Broadcast Services, Audio and Video Conferencing, Private Line Services, and others. Estimated cost reductions for the services named above range from four to 55 percent depending on the service.

### **New Management Methods for Agency Billing and Consultation**

This section of the report focuses on the two other statutory responsibilities assigned to DOIT for state telecommunication administration under CGS 4d-4. They are "assisting state agencies in designing and implementing new systems and processing bills for telecommunication services used by state agencies."

## Telecommunication Billing Management System

DOIT currently serves as the central telecommunications billing service provider to most state agencies. Dedicated employees with many years of service carry out this responsibility, which involves both manual and automated processes.

The system in use - the Telecommunication Billing Management System (TBMS) - enables state agencies to place orders and download monthly, consolidated bills.

In addition, DOIT is able to receive billing data from network services vendors, maintain agency account information, receive and process service requests from agencies, produce agency monthly network services bills, and create monthly charges for agency accounts for input into the State's accounting system, where this information is used to charge the agency account and create checks for vendor payment.

Despite these capabilities, many manual processes that must be executed. These include payment of telecommunications equipment invoices, master file updates, and verification of contract rates.

The TBMS system is being reengineered to accommodate changes associated with Core-CT. Changes associated with the new telecommunication contracts have caused repeated system failures and have required continuous recoding and patching to generate agency bills.

TBMS contains no inventory module – an area of acute concern. An equipment/system inventory functionality would enable agency equipment, system type, and location to be maintained more accurately.

The TBMS system originated in the single-vendor monopoly telecommunications environment of the 1970's. It is at the end of its life cycle and plans are in process for it to be further reengineered or replaced.

Some of the current system's shortcomings include:

- "Green Screen" User Interface
- No Ad-Hoc Query Capability
- Rudimentary Search Capability
- Poor Print Capability
- No E-mail Interface
- No View Capability
- No Inventory Information

- No Integration With Contracts
- No Service or Repair Integration
- No Automated Verification of Contract Rates

System shortcomings leave DOIT customer agencies without an accurate accounting or effective management tools for telecommunications services. Numerous reports by the Auditors of Public Accounts have cited agencies for the effects of this.

In 2004, DOIT prepared a Request for Information (RFI) for a new telecommunication management system. Responses to the RFI will determine whether a Request for Proposal (RFP) is warranted.

By issuing and reviewing responses to the RFI, DOIT seeks to determine system capability to:

- Serve as the single billing interface between telecommunications network service providers and the State.
- Provide a centralized call accounting service.
- Allow the State to make payments directly to network service providers.
- Receive, log and track all invoices, credits, refunds and other billing-related activity.
- Analyze and reconcile invoices to ensure accuracy and consistency with contracted rates and services.
- Remove any incorrect charges such as taxes, ancillary charges and installation charges that should be waived, or other overcharges.
- Ensure that removed services are removed from the State bill on the correct dates.
- Obtain billing credits and refunds on behalf of the State when required.
- Allocate costs across State agencies.
- Provide validated payment lists to DOIT.
- Host web-based billing detail and reports for access by DOIT and State agencies.
- Identify and resolve billing errors.
- Respond to billing inquiries by service providers and by the State.

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The RFI will enable the state to ascertain the costs associated with such a system, timeframes for development and deployment. DOIT believes this is a necessary step to ensure the best possible telecommunication management services.

### **Telecommunication Consulting Services**

Upgrading telecommunication systems requires analysis of factors that dictate system configuration and features, including an agency's business needs, budget conditions, geographic locations, facility condition, and future needs. DOIT provides such services on a case by case basis in a variety of ways.

A new model is being developed to optimize DOIT's consulting methodology. A successful outcome will result in a new methodology to apply to all client agencies requiring consultation.

DOIT Communication Services is piloting the new methodology with the State Veterans' Home and Hospital. DOIT and Veterans' Home and Hospital staff are cooperating in this venture, and are auditing the equipment and network services in place to assure that the facility is receiving the best value for their telecommunications expenditures.

Changes are being made as opportunities are found. Some problems with the network have already been resolved through removal of old services and

installation of updated services. Upon completion of the first phase of the project, the Veterans' Home and Hospital will have an updated inventory of services and equipment, positioning them for a later phase which will involve replacement of the aging telephone system.

The process is designed to optimize the telecommunication system at the State Veterans' Home and will be applied to future upgrades and optimization projects at other agencies.

### Agency Telecommunication Users Group

DOIT organized the Telecommunications User Group in order to educate agencies on telecommunication matters and to keep them informed as technology and contracts change. The group consists of agency personnel with responsibility for voice and data systems and services. In addition, many agency fiscal officers participate.

This is the only forum available within state government for the exchange of information and educational programs regarding the constantly changing landscape of voice and data communications.

DOIT holds periodic meetings with this group to discuss topics that include cost savings on telecommunication services, including wireless services, new telecommunication system capabilities, and advances in cabling systems.

In addition, and perhaps most important at the present time, presentations continue on the new telecommunication service contracts. Contracted vendors provide presentations and answer questions from user agencies. These will continue on an ongoing basis as it enables agencies to become more educated and informed as to the new choices and savings opportunities offered by the new contracts.

It is also a valuable resource for DOIT as it provides a steady flow of feedback concerning current services and issues of importance to individual agencies.

### Conclusion

The completion of the new telecommunication contracts was a milestone for the Department of Information Technology. However, state telecommunication network needs continue to grow and change rapidly. DOIT must continue to be vigilant in helping agencies optimize dollars spent and ensure that service offerings are adequate to meet agency needs.

This vigilance includes continued investigation and evaluation of a new Telecommunication Billing and Management System. It also includes continued and accelerated outreach and communication with client agencies through the Telecommunication User Group.

DOIT is also committed to, within available resources, finding ways to assist agencies in taking advantage of new technology and better management of their telecommunication systems.